

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Applicants note the allowability of Claim 6 with appreciation. Applicants nonetheless believe that all of the claims define over the cited prior art.

Claims 1-5, 7-8 and 15-16 were rejected under 35 U.S.C. § 103 as being obvious over Kamikawa et al. The Office Action there again relied on the mention of increased “operating efficiency” at lines 34-35 of col. 8 as a basis for concluding that it would have been obvious for one skilled in the art to use the flow rate-controlling partitions of Kamikawa et al to allow the furnace gas in the cooling step to flow in the direction of the movement of the hearth.

Applicants wish to thank Examiner Yang for the courtesy of an interview on July 28, 2009 at which time the outstanding Office Action was discussed. In particular, Applicants explained that the concept of increased operating efficiency in Kamikawa et al was based on a control that was the opposite of that claimed. No agreement was reached at that time, pending the Examiner’s further consideration of this argument.

As was discussed during the interview, Kamikawa et al, like the invention, is concerned with the problem that the reduced iron in a rotary hearth furnace tends to be reoxidized by air entering the furnace via the material supply port and flowing back to the discharge portion of the furnace due to the negative pressure present in the furnace (col. 2, lines 7-45; col. 7, lines 58-61). However, the solution to this problem taught by Kamikawa et al is to provide partitions which isolate the material supply portion 44 of the furnace, and thereby suppress both airflow F1 in the furnace in the direction of rotation of the hearth, *and* airflow F2 in the opposite direction to the direction of rotation of the hearth (paragraph bridging cols. 7-8). The partitions 53a and 53b are thus provided to “suppress the flow of air” (col. 8, line 27), and the description that “the operating efficiency can be increased” by

“diminishing the influence” of oxygen on the atmosphere in the furnace (col. 8, lines 33-35)
refers to the result of this two directional air flow suppression.

It may therefore be appreciated that a desire to increase operating efficiency in
Kamikawa et al would *not* have motivated one skilled in the art to have used the flow rate-
controlling partitions to allow flow in the direction of the movement of the hearth since
Kamikawa et al teaches that increased operating efficiency stems from suppressing air flow
in both directions – the opposite of what is claimed.

Applicants therefore believe that the present application is in a condition for
allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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